



## **TIP47 is required for the production of infectious HIV-1 particles from primary macrophages**

Hélène Bauby, Sandra Lopez-Vergès, Guillaume Hoeffel, Katy Janvier,  
Fabrizio Mammano, Stéphane Emiliani, Anne Hosmalin, Clarisse  
Berlioz-Torrent

### **► To cite this version:**

Hélène Bauby, Sandra Lopez-Vergès, Guillaume Hoeffel, Katy Janvier, Fabrizio Mammano, et al.. TIP47 is required for the production of infectious HIV-1 particles from primary macrophages. *Frontiers of Retrovirology: Complex retroviruses, retroelements and their hosts*, Sep 2009, Montpellier, France. pp.P8, 10.1186/1742-4690-6-S2-P8 . inserm-00663611

**HAL Id: inserm-00663611**

**<https://www.hal.inserm.fr/inserm-00663611>**

Submitted on 27 Jan 2012

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Poster presentation

Open Access

## **TIP47 is required for the production of infectious HIV-1 particles from primary macrophages**

Hélène Bauby<sup>\*1,2</sup>, Sandra Lopez-Vergès<sup>1,2</sup>, Guillaume Hoeffel<sup>1,2</sup>, Katy Janvier<sup>1,2</sup>, Fabrizio Mammano<sup>3</sup>, Stéphane Emiliani, Anne Hosmalin<sup>1,2</sup> and Clarisse Berlioz-Torrent<sup>1,2</sup>

Address: <sup>1</sup>Institut Cochin, Université Paris Descartes, CNRS (UMR 8104), Paris, France, <sup>2</sup>INSERM, U567, Paris, France and <sup>3</sup>Groupe Virus et Immunité, Institut Pasteur, Paris, France

\* Corresponding author

from Frontiers of Retrovirology: Complex retroviruses, retroelements and their hosts  
Montpellier, France. 21-23 September 2009

Published: 24 September 2009

Retrovirology 2009, **6**(Suppl 2):P8 doi:10.1186/1742-4690-6-S2-P8

This abstract is available from: <http://www.retrovirology.com/content/6/S2/P8>

© 2009 Bauby et al; licensee BioMed Central Ltd.

Macrophages are, along with T CD4<sup>+</sup>lymphocytes, the major targets of HIV-1 infection and play a key role in viral pathogenesis as a significant reservoir. Identification of the cellular cofactors involved in the production of infectious HIV-1 from macrophages is thus crucial. Nevertheless molecular mechanisms allowing the production of infectious particles from macrophages are not entirely deciphered. In this study, we investigated the role of the cellular cofactor TIP47 in HIV-1 morphogenesis in primary macrophages. Our data show that TIP47 is essential for HIV-1 infectivity and propagation. Mutations in HIV-1 Gag or Envelope (Env) proteins, which abolish interaction with TIP47, impair HIV-1 propagation and infectivity preventing colocalization of Gag and Env, and thereby inhibiting Env incorporation into virions. Whereas disruption of Gag-TIP47 interaction increases slightly Gag particles production, impaired Env-TIP47 binding reduces Gag particles release and, strikingly, induces their retention in the viral assembly compartments. Thus, as in T lymphocytes, TIP47 is critical for the efficient release of infectious HIV-1 particles from the assembly compartment of primary macrophages, making TIP47 a new potential therapeutic target for limiting HIV-1 infectivity and spreading. This work is funded by ANRS, SIDACTION, ANR-07-JCJC-0102 programs and is part of the activities of the HIV-ACE research network (HEALTH-F3-2008-201095) supported by a grant of the European

Commission, within the Priority 1 "Health" work programme of the 7<sup>th</sup> Framework Programme of the EU.